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Thomas Fuehrer

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EXAMINER

MUI, GARY

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/719,345	Applicant(s) FUEHRER, THOMAS	
	Examiner GARY MUI	Art Unit 2416	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 December 0200.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 2416

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1, 4, 5, 11, 12, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weigl et al. (US 2001/0021196 A1; hereinafter “Weigl”) and Roposh (US 5,396,494).

For claim 1, Weigl teaches transmitting messages in transmission time slots at a preselected transmission rate, that a message provided for the transmission time slot is transmitted repeatedly within the transmission time slot (see paragraph 0007; reference messages are transmitted and the message is repeatedly transmitted at a specific time interval and the message is controlled by a function of time). Weigl fails to explicitly teach a transmission rate within a transmission time slot being changeable. Roposh from the same field of endeavor teaches that a time frame may be divided into a greater or lesser number of time slots merely by increasing or decreasing the transmission rate (see column 7 lines 60 – 66). Therefore, it would have been obvious to one skilled in the art at the time of the invention was

Art Unit: 2416

made to change the transmission rate as taught by Roposh into Weigl. The motivation for doing this is to a more reliable system by guaranteeing access.

For claim 11, Weigl teaches a first means for transmitting messages in transmission time slots at a preselected transmission rate; and a message provided for the transmission time slot is transmitted repeatedly within the transmission time slot (see paragraph 0007; reference messages are transmitted and the message is repeatedly transmitted at a specific time interval and the message is controlled by a function of time). Weigl fails to explicitly teach a second means for changing a transmission rate within a transmission time slot. Roposh from the same field of endeavor teaches that a time frame may be divided into a greater or lesser number of time slots merely by increasing or decreasing the transmission rate (see column 7 lines 60 – 66). Therefore, it would have been obvious to one skilled in the art at the time of the invention was made to change the transmission rate as taught by Roposh into Weigl. The motivation for doing this is to a more reliable system by guaranteeing access.

For claims 4 and 12, Weigl teaches unambiguously allocating the messages to transmission time slots (see paragraph 0007).

For claim 5, Weigl and Roposh teach all of the claimed subject matter with the exception of multiplying the transmission rate within a transmission time slot by an integral factor. However, it would have been obvious to one skilled in the art time of the invention to multiply the transmission rate by an integer as a matter of design choice. The motivation for doing this is to increase the scalability of the system.

For claim 14, Weigl teaches a first means for transmitting messages in transmission time slots at a preselected transmission rate; and transmitted repeatedly within the transmission time slot

Art Unit: 2416

(see paragraph 0007; reference messages are transmitted and the message is repeatedly transmitted at a specific time interval and the message is controlled by a function of time). Weigl fails to explicitly teach a second means for changing a transmission rate within a transmission time slot in such a way that a message provided for the transmission time slot. Roposh from the same field of endeavor teaches that a time frame may be divided into a greater or lesser number of time slots merely by increasing or decreasing the transmission rate (see column 7 lines 60 – 66). Therefore, it would have been obvious to one skilled in the art at the time of the invention was made to change the transmission rate as taught by Roposh into Weigl. The motivation for doing this is to a more reliable system by guaranteeing access.

Claim Rejections - 35 USC § 103

4. Claims 2, 3, 8 – 10, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weigl and Roposh as applied to claims 1 and 11 above, and further in view of Kage (US 4,709,376).

For claim 2, Weigl and Roposh teaches all of the claimed subject matter with the exception of comparing at least two of the messages transmitted repeatedly within a transmission time slot with one another; and detecting a fault in the event of deviations with regard to at least one of the identification and the data. Kage from the same field of endeavor teaches that the data stored in the store are read out and applied to a majority circuit which then checks the bits of the patterns A_1, A_2, \dots, A_M each representative of the same information and, by majority, decides a single pattern $D = d^1 d^2 \dots d^k$. For example, d^k is the result of checking $a_1^k, a_1^k, \dots, a_m^k$ for majority; if the number of ONES is greater than that of ZEROS, $d_k = \text{ONE}$ (see column 4

Art Unit: 2416

lines 28 – 35, the bits are compared with each other and determined to find the correct pattern). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to process the received signals as taught by Kage into the bus system of Weigl and Roposh. The motivation for doing this is to more reliable bus system.

For claim 8, Weigl and Roposh teaches all of the claimed subject matter with the exception the messages contain an identification and data, the identification identifying data content, and the messages transmitted repeatedly within a transmission time slot are identical at least with regard to the identification and the data. Kage from the same field of endeavor teaches there is provided an apparatus for processing a digital received signal in which the same information appears repeatedly (see column 1 lines 52 – 55, the same data is transmitted). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to sending identical messages as taught by Kage into Weigl and Roposh bus system. The motivation for doing this is to have lower error rates.

For claims 3 and 10, Weigl and Roposh teaches all of the claimed subject matter with the exception that N of the messages transmitted repeatedly within a transmission time slot are compared with one another, and, within the scope of an M out of N deviation with regard to at least parts of the messages, at least one message is detected as being faulty, the messages detected as faulty being rejected. Kage from the same field of endeavor teaches that the data stored in the store are read out and applied to a majority circuit which then checks the bits of the patterns A_1, A_2, \dots, A_M each representative of the same information and, by majority, decides a single pattern $D = d^1 d^2 \dots d^k$. For example, d^k is the result of checking $a_1^k, a_1^k, \dots, a_m^k$ for majority; if the number of ONES is greater than that of ZEROS, $d_k = \text{ONE}$ (see column 4

Art Unit: 2416

lines 28 – 35, the bits are compared with each other and determined to find the correct pattern). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to process the received signals as taught by Kage into the bus system of Weigl. Also, neither Weigl and Kage teaches that M and N are integers, and wherein $N > 2$ and $(N/2) < M < N$. However, it would have been obvious to one skilled in the art at the time of the invention was made to M and N be integers within certain ranges. The motivation for doing this is to more reliable bus system.

For claim 9, Weigl and Roposh teaches all of the claimed subject matter with the exception of comparing at least two of the messages transmitted repeatedly within a transmission time slot with one another; and detecting a fault in the event of deviations with regard to at least one of the identification and the data. Kage from the same field of endeavor teaches that the data stored in the store are read out and applied to a majority circuit which then checks the bits of the patterns A_1, A_2, \dots, A_M each representative of the same information and, by majority, decides a single pattern $D = d^1 d^2 \dots d^k$. For example, d^k is the result of checking $a_1^k, a_1^k, \dots, a_m^k$ for majority; if the number of ONES is greater than that of ZEROS, $d_k = \text{ONE}$ (see column 4 lines 28 – 35, the bits are compared with each other and determined to find the correct pattern). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to process the received signals as taught by Kage into the bus system of Weigl and Roposh. The motivation for doing this is to more reliable bus system.

For claim 13, Weigl and Roposh teaches all of the claimed subject matter with the exception of a memory device for storing the messages transmitted repeatedly within a particular transmission time slot in a chronological order of their transmission. Kage from the same

Art Unit: 2416

field of endeavor teaches a store for storing the M information patterns which are received by the information pattern receive circuit (see column 1 lines 60 – 62). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to processed the received signals as taught by Kage into the bus system of Weigl and Roposh. The motivation for doing this is to have a more efficient system.

Claim Rejections - 35 USC § 103

5. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weigl and Roposh as applied to claim 1 above, and further in view of Strong (US 2002/0126691).

For claim 6 and 7, Weigl and Roposh teaches all of the claimed subject matter with the exception of structuring the message in such a way that a beginning and an end of the message are unambiguously detectable and that each of the messages has a first identifier for the beginning of the message and a second identifier for the end of the message. Strong from the same field of endeavor teaches a data frame has a start of frame and an end of frame (see paragraph 0040 lines 1 – 5 and paragraph 0051 lines 1 – 4, see figure 4 Start of frame and End of frame). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to structure the messages a taught by Strong to be used in Weigl and Roposh bus system. The motivation for doing this is to have a more accurate system.

Response to Arguments

6. Applicant's arguments filed December 29, 2008 have been fully considered but they are not persuasive.

In response to the applicants remarks, in particular that the Roposh (US 5,396,494) reference fails to teach “a transmission rate within a transmission time slot being changeable”. The examiner respectfully disagrees. The Roposh reference teaches that the time frame may be divided into a greater or lesser number of time slots merely by increasing or decreasing the transmission rate of bus (see column 7 lines 60 – 66). The claims state “a transmission rate within a transmission time slot being changeable” and given the broadest reasonable interpretation the Roposh reference teaches that the time frame transmission rate is changeable by dividing the frame into greater or lesser number of time slots. Therefore, the claims stand rejected under Weigl in view of Roposh.

Conclusion

7. **Examiner's Note:** Examiner has cited particular paragraphs or columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

Art Unit: 2416

In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gary Mui whose telephone number is (571) 270-1420. The examiner can normally be reached on Mon. - Thurs. 9 - 3 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

Art Unit: 2416

system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ricky Ngo/
Supervisory Patent Examiner, Art Unit
2416